



18TH PIPELINE TECHNOLOGY CONFERENCE SEMINARS

8 MAY 2023, BERLIN

AN EVENT BY



Dr. Konrad Reber

Difficult to Inspect Pipelines

Dr. Michael Beller

In-Line Inspection of Pipelines

Dr. Reza Javaherdashti

Practical Tips in Dealing with Microbial Corrosion in Pipelines

Registration Deadline: 31 Mar. 2023
(Special Discount for Group Delegations)

Difficult to Inspect Pipelines (DIP)



Course Content

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| <p>1 Onshore and Offshore Pipelines</p> <p>1.1 Terminologies (piggable vs. unpiggable, challenging and difficult to inspect)</p> <p>1.2 Scenarios (Accessibility, Is external inspection an option?)</p> <ul style="list-style-type: none"> • Onshore scenarios (CUI, external sheeting, Casings, Materials) • Offshore scenarios <ul style="list-style-type: none"> » Riser – (Static Riser, Catenary Risers, Flexible Risers) » Flowlines and unpiggable subsea pipelines <p>2 Methods of Inspection</p> <p>2.1 Inspection Technology</p> <ul style="list-style-type: none"> • Electromagnetic Technology (MEC, PEC, Eddy Current, etc.) • UT Technology (TOFD, EMAT, etc.) • Others (Radiography, optical,...) | <p>2.2 Operation of inspection tools</p> <ul style="list-style-type: none"> • Deployment of external inspection equipment • Offshore and Onshore • Internal inspection using <ul style="list-style-type: none"> » Crawler, How to propel, How to get back » Tethered tools • External Inspection, How to get through the coating? How to scan long distances <p>3 Preparation</p> <ul style="list-style-type: none"> • Planning (Who is involved, What to do at what time) • Cleaning (Internal vs. External Cleaning) • Deployment (LARS, Navigation, etc) <p>4 Inspection Solutions</p> <p>4.1 Actual Solutions of various vendors</p> |
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Lecturer



Dr. Konrad Reber, Innospection, Germany

Konrad Reber studied physics at the University of Mainz. In a Ph.D. thesis at the material science department of the University of Erlangen, he worked in the field of magnetic materials. At Pipetronix he was responsible for the development of data analysis algorithms for the application to MFL-pipeline inspections. This included methods of artificial intelligence for analysis automation. Later he also became responsible for the magnetic design of MFL-inspection pigs. After changing to NDT Systems & Services he continued to work in the field of in-line inspection and broadened his focus to include topics of defect assessment and general comparison methods of different inspection tools. Between 2006 and 2008 he was with TU-VRheinland as an expert within the Pipeline Technology Group. He was responsible for international projects on pipeline integrity and pipeline certification. Since 2008 he is head of research and development for the Innospection Group. The department is responsible for designing new inspection equipment of the Oil and Gas industry. The focus is on- and offshore applications of the eddy current technology. He is busy in delivering speeches on conferences and is a trainer in various courses on pipeline inspection.

In-Line Inspection (ILI) of Pipelines



Course Content

1 Introduction

Introducing the course and the role of In-Line Inspection as part of the Pipeline Integrity Assurance process

2 Defects in Pipelines

Introducing typical defects and their geometries in pipelines as well as identifying at which stage in the pipeline life they usually appear. Geometric anomalies, metal loss and cracks will be discussed

3 Pipeline Inspection

An overview of pipeline inspection methodologies, internal and external, with a special focus on internal inspection for traditional and challenging pipelines

4 Non-Destructive Testing Technologies

A brief overview of the non-destructive testing technologies utilized for In-Line Inspection, including magnetic flux leakage, ultrasound and eddy current technologies

5 Pipeline Inspection Tools

A comprehensive overview of the internal inspection tools commercially available today, covering traditional and challenging pipelines

6 Pipeline Inspection Procedures and Reporting

A brief look at the inspection procedures used during an ILI project, as well as introducing and explaining the analysis and reporting process. Overview of current reporting standards and how ILI data can be further used

Aim

The course will provide an introduction into the subject and importance of pipeline inspection with a focus on internal inspection using in-line inspection tools. Delegates will be introduced to the different non-destructive testing technologies used in in-line inspection tools as well as their specific strength and weaknesses.

The course provides a broad overview of tools commercially available today for the inspection of traditional and challenging pipelines in the onshore and offshore sector. Inspection procedures and reporting will be introduced, with a focus on typical content of Final Reports and the further use of inspection data.

The course is ideally suited to introduce the subject of in-line inspection, also as a foundation for the special in-line inspection tracks of the Pipeline Technology Conference.

Lecturer



Dr. Michael Beller, ROSEN Group, Germany

Dr. Beller has worked in the pipeline industry for over 25 years now. After receiving his Master's degree in Mechanical Engineering from the University of Karlsruhe, Germany, he joined the Research Center Karlsruhe where he carried out research work for his Ph.D. thesis on the behaviour of cracks in pipeline steels. In 1988 he joined Preussag AG in their pipeline construction division and in 1991 Pipetronix GmbH, a former subsidiary of Preussag specialized in pipeline inspection utilizing in-line inspection tools. At Pipetronix Dr. Beller held various positions in the Engineering, Sales and Marketing departments, including the position as Marketing Manager. After the merger with Pipeline Integrity International he was appointed Group Training Manager for the PII Group. Michael joined NDT Systems & Services AG in 2001, where he held the position of Corporate Marketing Manager.

In June 2013 he joined the ROSEN Group as Director Corporate Strategy Pipelines within the Corporate Marketing Team.

Michael has published more than 80 technical papers on the issues of pipeline inspection and integrity and is also co-author of a German standard book on Pipeline Inspection Technology. Michael is a former president of the International Pigging Products & Services Association and is currently a member of the editorial boards of the Journal of Pipeline Engineering and the PetroMin Pipeliner, both published internationally. In 2006 he also became a member of the founding board of the Professional Institute of Pipeline Engineers.

Dr. Beller has been delivering training courses to the pipeline industry for over 10 years now covering pipeline inspection, pipeline integrity and material defects in pipeline steels and is also a lecturer at the University of Applied Sciences in Karlsruhe, where he teaches Material Science and Technical Mechanics.

Practical Tips in Dealing with Microbial Corrosion (MIC) in Pipelines



Course Content

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| <p>1 Introduction
Introduction to the definition of microbial corrosion (MIC), its various correct and incorrect names and its importance</p> <p>2 Classification
Can microbial corrosion (MIC) be always classified as a subclass of internal corrosion?</p> <p>3 Bacteria
Classification of bacteria and their engineering importance</p> <p>4 Patterns of MIC
How can microbial corrosion in different systems be similar? General patterns of MIC</p> <p>5 Biofilm
a wrong name to address a right phenomenon!</p> <p>6 Electrochemistry
Temenos formation mechanism and its electrochemical importance</p> | <p>7 Treatment and Management of MIC</p> <p>8 Corrosion prediction models and MIC</p> <p>9 MIC and standards
describing related standards and their applicability</p> <p>10 MIC conclusion
lies, semi-facts, facts</p> <p>Significance
Contrary to all engineering discipline that study how to "make" structures, corrosion deals with how to control "failure" of these structures. The overall cost of corrosion could reach to be equal to 6 % of the Gross Domestic product of a country (GDP). Microbial corrosion is corrosion induced by organisms particularly by bacteria. The cost of microbial corrosion could reach to 40% of the cost of corrosion.</p> <p>In this seminar, a world-renowned expert in MIC, Dr. Javaherdashti will talk about important, practical aspects of MIC in, mainly, metal pipelines. Dr. Javaherdashti is a well-known authority in the field of corrosion and particularly microbial corrosion.</p> |
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Lecturer



Dr. Reza Javaherdashti

holds a double degree in Materials Science and Metallurgical Engineering. Being actively involved in numerous projects, He has more than 20 years of industrial (Root Cause analyst & consultant) and academic (researcher) experience. Dr. Reza is approved instructor by ASME (USA) and SPE (Society of Petroleum Engineers- USA). Reza has more than four thousand hours of highly successfully carried out training in industries around the globe about corrosion management and microbial corrosion. His recent project is with Shell Netherlands to make a mathematical model for addressing microbial corrosion in pipelines. He is currently the CEO of MICCOR, The Netherlands.



Information

Target Group

Pipeline Engineers, Technicians or other interested personnel from operators and service providers. Engineering Consultants active in the field Integrity Assessment.

Language

English

Date

8 May 2023, 9:00-17:00

Minimum number of participants

8 (per seminar)

Registration Deadline

31 March 2023

Pricing

The registration fee is 800 Euro per person (700 Euro for already registered delegates of Pipeline Technology Conference 2023). All prices + 19% VAT. Group discounts are available upon request (3 and more participants).

Included Services

- Seminar documentation
- Catering during coffee breaks and lunch breaks
- Certificate of participation

Event Venue

Estrel Berlin
Sonnenallee 225
12057 Berlin
Germany

Entry Conditions

Registration is not considered confirmed until payment is received in full. Registrations can be cancelled (in writing only) at a service charge of 100 Euro up to 4 weeks before the event. In case of later cancellation or failure to attend the entire attendance fee will be payable. The registered delegate may of course send a substitute at no additional cost. The organisers reserve the right to amend the program of events if necessary.

Picture Credit

Rosen Group, MICCOR, EITEP

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